

Claims

- [c1] An ultrasonic dental scaler comprising:
- a dental generator unit comprising circuitry for producing a base resonance signal;
 - a handpiece connector for coupling a handpiece to the dental generator unit; and
 - a passive circuit element, which adjusts the base frequency of the resonance signal to a second frequency, matching a resonant frequency of the handpiece.
- [c2] The ultrasonic dental scaler of claim 1, further comprising:
- a first potentiometer in the dental generator unit for adjusting the power level of the resonance signal.
- [c3] The ultrasonic dental scaler of claim 2, further comprising:
- a footswitch connector for coupling a power level controlling footswitch to the dental generator unit, wherein the footswitch connector disables the first potentiometer and couples a second potentiometer in the footswitch to the dental generator unit.
- [c4] The ultrasonic dental scaler of claim 2, further comprising:
- a footswitch connector for coupling a simple footswitch to the dental generator unit, wherein the simple footswitch connector enables the first potentiometer.
- [c5] The ultrasonic dental scaler of claim 1, wherein the passive circuit element is a capacitor.
- [c6] The ultrasonic dental scaler of claim 5, wherein the capacitor is in the handpiece connector.
- [c7] The ultrasonic dental scaler of claim 5, wherein the capacitor is in the dental generator unit.
- [c8] The ultrasonic dental scaler of claim 4, further comprising:
- a programmable logic control device for adjusting the frequency of the

base resonance signal.

- [c9] An ultrasonic dental scaler comprising:
- a dental generator unit comprising:
 - circuitry for producing a base resonance signal; and
 - a first potentiometer for adjusting a power level to the circuitry; and
 - a footswitch connectable to the dental generator unit, wherein the footswitch, when engaged with the dental generator unit, selectively sends power to the dental generator unit,
 - wherein the footswitch enables operation of the first potentiometer.
- [c10] The ultrasonic dental scaler of claim 9, further comprising:
- a second potentiometer within the footswitch;
 - wherein the first potentiometer is disabled when the footswitch is connected to the dental generator unit.
- [c11] The ultrasonic dental scaler of claim 9, wherein the footswitch comprises a pair of wires such that when the footswitch is engaged with the dental generator unit, the first potentiometer adjusts the power level to the circuitry.
- [c12] A footswitch for use with an ultrasonic dental scaler comprising:
- circuitry for sending power to the ultrasonic dental scaler; and
 - a footswitch connector coupled between the footswitch and the ultrasonic dental scaler, wherein the footswitch connector connects the circuitry in the ultrasonic dental scaler to a first potentiometer.
- [c13] The footswitch of claim 12, wherein the first potentiometer is within the ultrasonic dental scaler.
- [c14] The footswitch of claim 12, wherein the first potentiometer is within the footswitch.
- [c15] A footswitch for use with an ultrasonic dental scaler comprising:
- circuitry for sending power to the ultrasonic dental scaler; and
 - a footswitch connector coupled between the footswitch and the ultrasonic dental scaler, wherein the footswitch connector connects the circuitry in

the ultrasonic dental scaler to a first potentiometer in the footswitch; wherein a second potentiometer in the circuitry is disabled when the footswitch is connected to the ultrasonic dental unit.

- [c16] A method comprising:
- pairing a handpiece, which operates at a resonant frequency with a handpiece connector as a package, wherein the handpiece connector comprises a passive element, which is associated with the resonant frequency;
 - taking an order from a customer for an ultrasonic dental scaler, the order comprising a first request for a handpiece, wherein the handpiece operates at the resonant frequency; and
 - sending the package with the dental generator unit to the customer.
- [c17] The method of claim 16, further comprising:
- receiving a second request for a footswitch, wherein the second request specifies either a power level control footswitch or an on/off footswitch;
 - and
 - sending the requested footswitch to the customer.
- [c18] The method of claim 17, further comprising:
- pairing a second handpiece, which operates at a second resonant frequency with a second handpiece connector as a second package, wherein the second handpiece connector comprises a passive element, which is associated with the second resonant frequency;
 - receiving a third request for the second handpiece; and
 - sending the second package to the customer.
- [c19] An ultrasonic dental scaler inventory with interchangeable handpieces and footswitches, comprising:
- a plurality of essentially identical generator units comprising circuitry for producing a base resonance signal and a first potentiometer for adjusting the power level of the resonance signal;
 - a plurality of interchangeable handpieces including at least two different sets operable at different resonant frequencies, wherein each handpiece

includes passive circuitry elements for matching the base resonance signal to the resonant frequency of the handpiece; and
first and second footswitches sets including on/off circuitry, wherein the first footswitch set enables the first potentiometer and the second footswitch set disables the first potentiometer and enables a second potentiometer in the second footswitch.